

Test Module10.7

Electronic Signatures

Test Cases

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Document History

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T10.7 Electronic Signatures

REMARKS	TEST DATA:	The test data for the following tests (test module 10, chapter T10.7) can be found in the corresponding test data repository. The reference chapter is called ' on chapter T10.7 – Electronic Signatures '.
	TEST EXECUTION:	<p>step (1) Please read the chapter Testframework – Introduction/Chapter 2 before starting the test execution.</p> <p>step (2) The test cases are designed in a way that enables you to skip certain test cases when required. However, the outcome of some test cases might be a precondition of subsequent tests. Where there are dependencies we have inserted test references into the precondition section of the test case. Careful attention should be given to the preconditions of the test cases.</p>

T10.7.1 Configuration

Abstract: This chapter focuses on testing the configuration options for ERMS supporting electronic signatures.

T10.7.1.1 Configuration of Storage of Authentication Metadata

I. Global test case information		
<i>test case id:</i>	T10.7.1.1	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input type="checkbox"/> Not Testable
<i>test case description:</i>	An administrative role configures the ERMS for the storage of verification metadata for electronically signed records. Ensure that the administrative role has the following configuration options for the storage of the metadata: <ul style="list-style-type: none"> the fact of successful verification; specified information regarding the verification process; all verification data. 	
<i>Req.-ID:</i>	10.7.2	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> Logged in as CentralAdministrator 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Configure the storage of metadata for electronically signed records.	The following configuration options are possible for the storage of metadata for electronically signed records: <ul style="list-style-type: none"> the fact of successful verification specified information regarding the verification process all verification data
<i>c. postcondition(s)</i>		
The ERMS enables an administrative roles to configure the system to store verification metadata for electronically signed records with the record at time of capture in one of the following ways: <ul style="list-style-type: none"> the fact of successful verification specified information regarding the verification process all verification data 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.2 Declaration of Authentication Metadata

Abstract: This chapter focuses on testing the declaration and storage of authentication metadata.

T10.7.2.1 Storage of Authentication Metadata During the Capture of a Record (I)

I. Global test case information		
<i>test case id:</i>	T10.7.2.1	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input type="checkbox"/> Not Testable
<i>test case description:</i>	The ERMS is configured in the following way: during the capture process the fact of successful verification of electronically signed records will be stored after a successful authentication. A user role captures a valid electronically signed record. Ensure that the information that the electronic signature was verified successfully is stored as metadata.	
<i>Req.-ID:</i>	10.7.2	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> The ERMS is configured to store the fact of a successful authentication of an electronically signed record when a record is captured Logged in as Reviewer 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the electronically signed document Document5 (D05) .	The electronically signed document Document5 (D05) is captured as record. The fact of a successful authentication is stored as authentication metadata.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> When the ERMS is configured to store the fact of successful authentication of an electronically signed document, the ERMS stores the fact of a successful authentication of the signature as authentication metadata of an electronically signed document. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.2.2 Storage of Authentication Metadata During the Capture of a Record (II)

I. Global test case information		
<i>test case id:</i>	T10.7.2.2	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input type="checkbox"/> Not Testable
<i>test case description:</i>	The ERMS is configured in the following way: During capture all specified information regarding the verification process will be stored after a successful authentication. A user role captures a valid electronically signed record. Ensure that specified information regarding the verification process is stored as metadata.	
<i>Req.-ID:</i>	10.7.2	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> The ERMS is configured to store specified information regarding the verification process when a record is captured Logged in as Reviewer 		
<i>b. test steps</i>		
<i>step</i>	<i>action/operation</i>	<i>check/ expected result</i>
1.	Capture the electronically signed document Document6 (D06) .	The electronically signed document Document6 (D06) is captured as record. Specified information regarding the verification process is stored as authentication metadata.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> When the ERMS is configured to store specified information regarding the verification process, the ERMS stores specified information regarding the verification process when capturing electronically signed document. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.2.3 Storage of Authentication Metadata During the Capture of a Record (III)

I. Global test case information		
<i>test case id:</i>	T10.7.2.3	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input type="checkbox"/> Not Testable
<i>test case description:</i>	The ERMS is configured in the following way: when an electronically signed document is captured all verification data will be stored. A user role captures a valid electronically signed record. Ensure that all verification data is stored as metadata.	
<i>Req.-ID:</i>	10.7.2	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> The ERMS is configured to store all verification data when an electronically signed record is captured Logged in as Reviewer 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the electronically signed document Document7 (D07) .	The electronically signed document Document7 (D07) is captured as record. All verification data is stored as authentication metadata.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> When the ERMS is configured to store all verification data, the ERMS stores all verification data when an electronically signed document is captured. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.3 Declaration of Records/emails

Abstract: This chapter focuses on testing the declaration of records or emails.

T10.7.3.1 Capture and Storage of Electronic Certificates when Capturing a Record

I. Global test case information		
<i>test case id:</i>	T10.7.3.1	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input type="checkbox"/> Not Testable
<i>test case description:</i>	A user role captures a document with an electronic signature. Ensure that the electronic signature, associated electronic certificates and details of the related certification service providers are captured, verified if required and stored.	
<i>Req.-ID:</i>	10.7.1	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> • Metadata elements for electronically signed signatures are defined • Logged in as role Reviewer • TestClassificationScheme1 is created 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the electronically signed document Document1 (D01) .	The document is captured as Record1 (CS01/001/001/001) into the file Strategy (CS01/001/001) . At least the following information are stored: <ul style="list-style-type: none"> • electronic signature • associated electronic certificates • details of related certification service providers
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> • The ERMS is able to capture, verify if required and store electronic signatures, associated electronic certificates and details of related certification service providers. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.3.2 Validation of Electronic Signatures

I. Global test case information		
<i>test case id:</i>	T10.7.3.2	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Optional
<i>test case description:</i>	An user role captures two documents: one with a valid and one with an invalid electronic signature. Ensure that the ERMS validates the electronic signature and reports an invalid electronic signature to an administrative role.	
<i>Req.-ID:</i>	10.7.4	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> • Metadata elements for electronically signed signatures are defined • Logged in as role Reviewer • The ERMS is configured in a way that it reports invalid check results of an electronic signature to an administrative role. • TestClassificationScheme1 is created 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the document Document2 (D02) .	The document Document2 (D02) is captured as record Record2 (CS01/001/001/002) into the file Strategy (CS01/001/001) . The electronic signature check result says that the signature is valid.
2.	Check the metadata of Record2 (CS01/001/001/002) .	The metadata of Record2 (CS01/001/001/002) contain the result of the validation of the electronic signature.
3.	Capture the document Document3 (D03) .	The document Document3 (D03) is captured as record Record3 (CS01/001/001/003) into the file Strategy (CS01/001/001) . The electronic signature check result says that the signature is invalid.
4.	Check the metadata of Record3 (CS01/001/001/003) .	The metadata of Record3 (CS01/001/001/003) contain the result of the validation of the electronic signature.
5.	Log off user role Reviewer .	User in role Reviewer is logged off.
6.	Log in as user role CentralAdministrator .	User in role CentralAdministrator is logged in.
7.	Check if there is a notification about an invalid check result.	There is a notification about the invalid check result of the electronic signature of Record3 (CS01/001/001/003) .
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> • The ERMS is capable of checking the validity of an electronic signature at the time of capture and stores this information in the metadata of the captured record. • The ERMS reports an invalid check result to a specified user or administrative role. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.3.3 Verification Process for Capturing Emails

I. Global test case information		
<i>test case id:</i>	T10.7.3.3	
<i>test case priority:</i>	<input checked="" type="checkbox"/> Mandatory	<input type="checkbox"/> Optional
<i>test case description:</i>	A user role captures an email with an electronic signature. Ensure that the ERMS captures and stores at least the following information about the verification process: <ul style="list-style-type: none"> the fact that the validity of the signature was checked the identity of individual initiating the check the certificate issuer the serial number of the electronic certificate, verifying the signature the certification service provider with which the signature has been validated the date and time that the checking occurred 	
<i>Req.-ID:</i>	10.7.5	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> Logged in as Reviewer TestClassificationScheme1 is created 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the electronically signed email Email1 (E01) as Record4 into the file Strategy (CS01/001/001) .	The email Email1 (E01) is captured as Record4 (CS01/001/001/004) into the file Strategy (CS01/001/001) . Information to the following metadata are declared: <ul style="list-style-type: none"> the fact that the validity of the signature was checked the identity of individual initiating the check the certificate issuer the serial number of the electronic certificate, verifying the signature the certification service provider with which the signature has been validated the date and time that the checking occurred
<i>c. postcondition(s)</i>		
The ERMS is able to capture and store automatically details about the process of verification for an electronic signature, including: <ul style="list-style-type: none"> the fact that the validity of the signature was checked the identity of individual initiating the check the certificate issuer the serial number of the electronic certificate, verifying the signature the certification service provider with which the signature has been validated the date and time that the checking occurred 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.3.4 Storage of Information with an Electronic Record

I. Global test case information		
<i>test case id:</i>	T10.7.3.4	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Optional
<i>test case description:</i>	A record with electronic signature is captured into the ERMS. Ensure that the ERMS stores with the electronic record the following information: <ul style="list-style-type: none"> the electronic signature(s) associated with that record the electronic certificate(s) verifying the signature 	
<i>Req.-ID:</i>	10.7.7	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> Logged in as role Reviewer TestClassificationScheme1 is created 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Capture the document Document4 (D04) as Record5 (CS01/001/001/005) .	The document Document4 (D04) is captured as Record5 (CS01/001/001/005) . The following information is stored with the record: <ul style="list-style-type: none"> the electronic signature(s) associated with that record the electronic certificate(s) verifying the signature
<i>c. postcondition(s)</i>		
The ERMS stores with the electronic record: <ul style="list-style-type: none"> the electronic signature(s) associated with that record the electronic certificate(s) verifying the signature. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.4 Application of an Electronic Signature

Abstract: This chapter focuses on testing the application of electronic signatures.

T10.7.4.1 Export Process

I. Global test case information		
<i>test case id:</i>	T10.7.4.1	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Optional
<i>test case description:</i>	An administrative role exports a file, which includes records. Ensure that the ERMS allows to apply an electronic signature.	
<i>Req.-ID:</i>	10.7.9	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> • TestClassificationScheme1 is created • Logged in as CentralAdministrator 		
<i>b. test steps</i>		
step	action/operation	check/ expected result
1.	Export the file Management (CS01/001/002) .	An electronic signature can be applied to the file Management (CS01/001/002) . The file Management (CS01/001/002) is exported.
2.	Export the record Record6 (CS01/001/003/001) .	An electronic signature can be applied to the record Record6 (CS01/001/003/001) . The record Record6 (CS01/001/003/001) is exported.
3.	Export the record Record7 (CS01/001/003/002) .	An electronic signature can be applied to the transfer message of the record Record7 (CS01/001/003/001) . The record Record7 (CS01/001/003/002) is exported.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> • The ERMS enables an administrative role to apply an electronic signature to the file or record or transfer message during an export process. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.4.2 Capability of External Validation

I. Global test case information		
<i>test case id:</i>	T10.7.4.2	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Optional
<i>test case description:</i>	Test whether an already applied digital signature during the export process is capable of external validation.	
<i>Req.-ID:</i>	10.7.10	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> The file Accounting (CS01/001/004) got a digital signature during the export process Logged in as role Reviewer 		
<i>b. test steps</i>		
<i>step</i>	<i>action/operation</i>	<i>check/ expected result</i>
1.	Validate the file Accounting (CS01/001/004) by an external validation.	The exported file can be externally validated. The file Accounting (CS01/001/004) is valid.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> The digital signature which the ERMS applies to a file and records during the export is capable of external validation. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.5 Others

Abstract: This chapter focuses on testing various aspects of an ERMS supporting electronic signatures that have not been tested in previous chapters.

T10.7.5.1 Introduction of New Electronic Signature Technologies

I. Global test case information		
<i>test case id:</i>	T10.7.5.1	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input checked="" type="checkbox"/> Not Testable
<i>test case description:</i>	The corresponding requirements is not testable.	
<i>Req.-ID:</i>	10.7.3	
II. Test case		
<i>a. precondition(s)</i>		
•		
<i>b. test steps</i>		
<i>step</i>	<i>action/operation</i>	<i>check/ expected result</i>
1.		
<i>c. postcondition(s)</i>		
•		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature

T10.7.5.2 Demonstration of Integrity

I. Global test case information		
<i>test case id:</i>	T10.7.5.2	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input type="checkbox"/> Optional <input checked="" type="checkbox"/> Not Testable
<i>test case description:</i>	The corresponding requirements is not testable.	
<i>Req.-ID:</i>	10.7.6	
II. Test case		
<i>a. precondition(s)</i>		
•		
<i>b. test steps</i>		
<i>step</i>	<i>action/operation</i>	<i>check/ expected result</i>
1.		
<i>c. postcondition(s)</i>		
•		
III. Test result		
<i>defects / deviations</i>	<i>verdict</i>	
	<input type="checkbox"/> passed	
	<input type="checkbox"/> failed	
<i>remarks</i>	<i>tester</i>	
	_____ date, signature	

T10.7.5.3 Configuration of Storage of a Validation Ticket

I. Global test case information		
<i>test case id:</i>	T10.7.5.3	
<i>test case priority:</i>	<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Optional
<i>test case description:</i>	An administrative role is logged in. Ensure that this administrative role can define whether the ERMS will store the validation ticket returned by the system that checked the electronic signature.	
<i>Req.-ID:</i>	10.7.8	
II. Test case		
<i>a. precondition(s)</i>		
<ul style="list-style-type: none"> Logged in as role CentralAdministrator 		
<i>b. test steps</i>		
<i>step</i>	<i>action/operation</i>	<i>check/ expected result</i>
1.	Define that the ERMS will store the validation ticket returned by the system that checked the electronic signature.	The ERMS allows to define whether the validation ticket returned by the system that checked the electronic signature will be stored.
<i>c. postcondition(s)</i>		
<ul style="list-style-type: none"> The ERMS allows an administrator to define whether the ERMS will store the validation ticket returned by the system that checked the electronic signature. 		
III. Test result		
<i>defects / deviations</i>		<i>verdict</i>
		<input type="checkbox"/> passed
		<input type="checkbox"/> failed
<i>remarks</i>		<i>tester</i>
		_____ date, signature